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Analysis and Investment for
Low-Emission Growth

LESSONS LEARNED IN LOW EMISSION DEVELOPMENT STRATEGIES (LEDs) AND RENEWABLE ENERGY ANALYSIS: PROMOTING SUSTAINABILITY THROUGH PARTNERSHIPS IN THE PHILIPPINES

THE AILEG PROJECT

Contract No.: EEM-I-00-07-00004-00

Task Order: AID-OAA-TO-11-00041



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Submitted to:

Office of Economic Policy
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Office of Environment, Energy and Climate Change
USAID Philippines

Submitted by:

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DISCLAIMER

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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The AILEG Team that prepared this report extends its immense gratitude to all those who took the time to attend the Final AILEG Philippines Workshop titled “Lessons Learned in Low Emission Development Strategies (LEDS) and Renewable Energy Analysis: Promoting Sustainability Through Partnerships.”

AILEG is deeply appreciative for the contributions of numerous Government of the Philippines (GPH) and USAID representatives who participated in this workshop and provided comments on progress to do date in implementing AILEG recommendations and a clear vision of the way forward in building on the lessons learned under the AILEG program. The workshop was attended by almost seventy participants from various stakeholder groups including private and public utilities, private sector institutions and NGOs, the Government of the Philippines Departments, including DOE and others, Government Agencies and Commissions, academia, and donor agencies. In particular, we would like to thank Director Mario Marsigan of the Renewable Energy Management Bureau (REMB); Ms. Marissa Cerezo, Assistant Director REMB; Director Jesus Tamang from the Department of Energy of the Energy Policy and Planning Bureau (EPPB); Mr. Jesus C. Anunciacion, Officer-in-Charge and Assistant Director of the Energy Utilization and Management Bureau (EUMB); and Assistant Secretary Daniel Ariaso. Their excellent support to the AILEG team from helping to arrange and coordinate the workshop to providing valuable input to this final event has underscored the strong commitment and capabilities of the GPH to the promotion of renewable energy and LEDS.

As the list of individuals who graciously provided their time and efforts is very long, we wish to thank in particular Mr. Joseph Foltz, Acting Director, Office of Environment, Energy and Climate Change (OEECC) and Ms. Lily Gutierrez, Energy Policy Specialist, OEECC, of USAID/Philippines, and Asst. Secretary Joyceline A. Goco, Deputy Executive Director and Ms. Sandee Recabar, Sr. Science Research Specialist, of the Climate Change Commission. We would also like to thank our Moderator, Ms. Catherine Maceda and Dr. Aura Matias, Dean of the University of the Philippines’ National Engineering Center (UP-NEC) who gave the message on behalf of the Universities that signed the MOU.

This Proceedings Report was prepared by Ms. Celia Daquioag and Ms. Salustiano Macatangay, Documentation Officers of the Center for Advanced Philippines Studies (CAPS), the AILEG logistics contractor. Valuable review and contributions to this report were provided by Dr. Eric Hyman, Enterprise Development Advisor/Capacity Building of USAID/E3/EP and Ms. Lily Gutierrez of USAID/Philippines; Ms. Liliana Cassanova, Executive Director of CAPS; and Ms. Dana Kenney, AILEG Philippines Country Manager, Ms. Felicidad Narvaez, AILEG Country Coordinator, and Ms. Lindsay Kohlhoff, AILEG Climate Change Specialist of Abt Associates.

ACRONYMS

ADMU	Ateneo de Manila University
AILEG	Analysis and Investment for Low-Emission Growth
AIM	Asian Institute of Management
AREC	Affiliated Regional Energy Center
ASOG	Ateneo School of Government
BIR	Bureau of Internal Revenue
CCC	Climate Change Commission
CLSU	Central Luzon State University
DOE	Department of Energy
DOF	Department of Finance
ECs	Electric Cooperatives
EC-LEDS	Enhancing Capacity for Low-Emissions Development Strategies
EMB	Environmental Management Bureau
EPIMB	Energy Power Industry and Management Bureau
EPPB	Energy Policy and Planning Bureau
ERC	Energy Regulatory Commission
EUMB	Energy Utilization Management Bureau
GPH	Government of the Philippines
HECS	Household Energy Consumption Survey
ITMS	Information Technology Management Services
LBP	Landbank of the Philippines
LPP	League of the Provinces in the Philippines
LEAP	Long-range Energy Alternatives Planning
LEDS	Low Emission Development Strategies
LMP	League of Municipalities
MERALCO	Manila Electric Company
MINDA	Mindanao Development Authority
MOU	Memorandum of Understanding
MSU	Mindanao State University
NEDA	National Economic and Development Authority
NGCP	National Grid Corporation of the Philippines
NGO	Non-Government Organization
NPC	National Power Corporation
NREB	National Renewable Energy Board
NREL	National Renewable Energy Laboratory
OIMB	Oil Industry Management Bureau
OSec	Office of the Secretary
PNOC	Philippine National Oil Company
PPA	Power Purchase Agreements
PUP	Polytechnic University of the Philippines
RE	Renewable Energy
REMB	Renewable Energy Management Bureau
RPS	Renewable Portfolio Standards
SRA	Sugar Regulatory Administration
TrancCo	National Transmission Corporation
TUP	Technological University of the Philippines
ULAP	Union of Local Authorities of the Philippines

UP-NEC

University of the Philippines- National Engineering Center

EXECUTIVE SUMMARY

This report highlights the outputs of the U.S. Agency for International Development's (USAID) AILEG Stakeholders' Culminating Activity on *Lessons Learned in Low Emission Development Strategies (LEDS) and Renewable Energy Analysis: Promoting Sustainability through Partnerships* on June 18, 2013 at the Dusit Thani Manila. A total of 57 participants attended from the Government of the Philippines (GPH), academia, private and public utilities, NGOs, and donors (approximately 51% of the participants were women).

A Memorandum of Understanding was signed at the event between the DOE and the six universities -- Ateneo School of Government (ASoG), Central Luzon State University (CLSU), Mapua Institute of Technology, Polytechnic University of the Philippines (PUP), Technological University of the Philippines (TUP), and the University of the Philippines (UP). The MOU is expected to promote the institutionalization of skills to develop and implement LEDS in the Philippines.

Ms. Joyceline Goco, Assistant Secretary of the Climate Change Commission (CCC) explained the importance of emerging issues related to climate change—including LEDS, Green Growth, Low Carbon Development, and the Green Economy. Mr. Joseph Foltz, Acting Director of USAID's Office of Environment, Energy and Climate Change, expressed his gratitude for the AILEG project. He noted that the GPH has already built the foundation for progress through legislation and that the MOU would continue work on data assessments and LEDS training.

Ms. Dana Kenney, AILEG Philippine Country Manager, summarized AILEG's training for public and private sector officials in the Long-range Energy Alternatives Planning (LEAP) model. This model includes financial analysis, economic modeling, capacity building, data collection and management. Training participants discussed their commitment to using LEAP in their schools and providing quality and reliable data. Representatives from academia recognized called for increased collaboration for success in LEDS. The heads of the DOE's three main bureaus of shared their views on how their bureaus would implement LEDS in line with the lessons learned from the LEAP trainings and AILEG workshops on Renewable Energy Financial Flows and Barriers to Investment and on the Energy Data Assessment.

The closing remarks from Dr. Aura Matias UP-NEC and DOE Assistant Secretary Raymond Acol noted the importance of the AILEG project in making substantive economic assessment and data improvement contributions to the country and helping facilitate inter-ministerial cooperation with the Climate Change Commission (CCC). She also noted the high level of DOE's commitment to increasing expertise and partnering with other stakeholders in the energy sector through the CCC/DOE MOU signing points to the future success of LEDS in the Philippines.

PROCEEDINGS

Opening Ceremony

The event included welcome messages from the Climate Change Commission and USAID; updates on EC LEDS and AILEG programs in the Philippines; sharing by LEAP Training participants; affirming of commitments to pursue LEDS; and signing of a Memorandum of Agreement by DOE, CCC, and six universities in the Philippines (UP, PUP, TUP, CLSU, ASG, MIT).

Welcoming Messages

Ms. Joyceline Goco

Assistant Secretary-Deputy Director
Climate Change Commission (CCC)

Ms. Joyceline Goco thanked the U.S. government and USAID for supporting the activity. The Philippines is one of the countries participating in the EC LEDS program, and the CCC has adopted LEDS, Low Carbon Development, Green Growth, and Green Economy to contribute to sustainable development of the country.

The CCC is giving priority to climate change adaptation since the Philippines ranks third globally in climate change vulnerability.¹ It is looking at opportunities to develop the adaptive capacity of vulnerable communities and the ecosystem. The CCC is also identifying mitigation actions for sustainable development.

Ms. Goco thanked AILEG for helping the commission use LEAP to identify mitigation options and help set priorities for sustainable development. She hoped to see that the project's activities would be sustained and used by the different agencies and looked to academia as a critical partner. Ms. Goco related how CCC builds partnerships with different institutions in the implementation of its projects on both mitigation and adaptation, and is scheduled to sign another Memorandum of Agreement with the University of the Philippines on different aspects of climate change.

One CCC adaptation project targets Cagayan de Oro and Iloilo. CCC has partnered with Xavier University and Mindanao State University (MSU) Iligan to help the local government and other institutions implement adaptation measures. The CCC is investigating how to integrate LEDS into climate change resiliency and encourage the various sectors to mainstream or climate-proof their programs and activities. This is already a trend in the United States, as Ms. Goco learned by attending the Peer-to-Peer Program. In the U.S., climate change is integrated in the energy, agriculture, and transportation sectors and she hoped to see this approach used in the Philippines. In closing, Ms. Goco looked forward to the use of LEAP in all CCC's programs and hoped the LEDS program would help sustain efforts of the stakeholders in the energy sector.

¹ <http://maplecroft.com/about/news/ccvi.html>

Mr. Joseph Foltz
Acting Director, OEECC
USAID

Mr. Foltz expressed his belief in the future of renewable energy as part of the economic resilience strategy. He noted that the Philippines has led the way in energy legislation through the Biofuels Law, Renewable Energy Act, and Climate Change Act. He was proud to be part of EC-LEDS program, and acknowledged the strong leadership of the CCC as the coordinating agency with support from the DENR and DOE.

Funding for the EC-LEDS program in the Philippines comes from U.S. Agency for International Development (USAID) funds, the Department of Energy, Department of Forestry, and other agencies providing resources to the Philippines to support partnership for growth. Mr Foltz emphasized the important role of the academia as stakeholders and institutions that provide knowledge and innovation and feed into policy development and implementation, citing the experience of Lawrence Berkeley National Laboratory.

The major components of the Philippine LEDS program were outlined in a MOU about a year and a half ago. Discussions on GHG data and economic planning have opened the door to the more challenging concerns on energy efficiency and investment. For example, the climate change adaptation portability assessment informed energy companies on site selection to protect a sixty year investment.

Mr. Foltz cited the importance of AILEG's LEAP training workshops in energy planning and policy making. Participants from the various sectors were taught how to assess and classify energy data, understand what the data means, and to use analysis tools to project various scenarios and mitigation measures.

Mr. Foltz reiterated that there are still inefficiencies in the energy system in the United States. The department of energy in California on energy efficiency and managing energy demand. He found the MAC Curve a good tool for policy makers.

Mr Foltz recognized CO₂ reduction as a function of the activities that all stakeholders have undertaken. He cited the Bloomberg Energy and Finance exercise as an activity that helped the DOE in crafting energy programs. He noted that the renewable energy program has gained direction and that the exercises provided clarity on what to expect in the future.

In closing, Mr. Foltz emphasized that working on the issues as a team through partnerships is essential, and that there should be more training, workshops, and conferences. In this respect, he assured the stakeholders that USAID will always be a partner of the Philippine government, the private sector, and academia.

Updates on EC-LEDS and AILEG in the Philippines

Ms. Lily Gutierrez

Energy Policy Specialist, OEECC

USAID

Ms. Gutierrez described EC-LEDS as a flagship program of USAID and the whole US Government, launched in response to the call of the 2009 Copenhagen Summit to include support for LEDS in developing countries. The program now has nine partner countries in Asia.

EC-LEDS' goal is to promote economic growth in developing countries through a long-term development program, which commenced in the Philippines with the signing of an agreement between EC-LEDS and CCC. The partnership will boost implementation of GHG inventory, promote the use of LEAP models in policy making, and monitor programs on forestry and energy.

Much has been done to pursue LEDS in the Philippines, including the CCC's institutionalization of the GHG inventory, and NREL's work on geospatial technology. The Agriculture and Land Use (ALU) software was adapted to help GHG inventory at sub-national levels, and twelve Local Government Units (LGUs) were selected to participate in this program. The use of the LEAP model and the marginal abatement cost curves (MACCs) results by the government, private sector, and academia have increased confidence in energy planning.

USAID has supported the energy and forestry sectors, and there has been ongoing energy data assessment in these sectors. USAID is working with the DOE and NREB to study the financial flaws and barriers to renewable energy investment by reviewing provisions of the Renewable Energy Act of 2008. The Renewable Portfolio Standards (RPS) will also be ready soon.

In the forestry sector, Ms. Gutierrez described how USAID supports DENR and CCC through a joint project with United States Forestry Service. The project enhances the capacity of the lead agencies in the forestry sector, specifically in terms of forest management, use of remote sensing, forest monitoring, and forest land use planning.

Ms. Gutierrez said USAID's support for LEDS in the Philippines through the EC-LEDS programs has cut across sectors. She emphasized the value of sharing views with stakeholders in other countries, as seen during the September 2012 International LEAP Conference and the high-level delegation to the Peer-to-Peer Exchanges held in Washington and California, attended by 150 Asian government officials. She also noted the importance of resource assessment in energy planning. USAID is now working closely with the Mindanao Development Authority (MinDA) and DOE to assess the hydro-energy potential in Mindanao. It also collaborates with ADB to update the 2001 NREL wind energy assessment study.

In closing, Ms. Gutierrez informed everyone about two upcoming GHG inventory workshops with the LGUs and NREL, and the ASIA LEDS Forum in October 2013.

Ms. Dana Kenney
Senior Associate/Scientist
AILEG

The USAID-funded AILEG project in 2011 and ends in August 2013. Its main objective is to integrate economics and investment into LEDS. Financial analysis, economic modeling, capacity building, and data collection and management are necessary inputs of the program. AILEG has a standard procedure for implementing LEDS while various countries have different government support and complementary activities in pursuing their specific programs.

Ms. Kenney listed the five stages of implementing LEDS. In the Philippines, with AILEG covering the first four stages, listed below during the nine-month period of AILEG.

1. **Assessing the current situation:** Energy data are assessed for availability, reliability, relevance and quality. AILEG's first task in the Philippines, was to organize a LEAP training workshop for thirty stakeholders in the energy sector that introduced LEAP along with other energy assessment tools. Lack of Philippine energy data to make the LEAP application useful was seen as a big challenge. The compilation of Philippine energy data became the next area of concern. USAID gave priority to the consideration of DSM data, and AILEG also provided a grant to UP NEC to generate baseline energy data for the Philippines.
2. **Analyzing options:** In the first LEAP training in January 2013, the lack of energy baseline data limited the capability of the participants to apply the tools. This problem was resolved during the second LEAP training workshop in May 2013. Prof. Wali del Mundo of UP NEC used LEAP modeling in presenting the Philippine Energy Baseline Data.
3. **Setting priorities for actions:** In the second LEAP Training, the Marginal Abatement Cost Curves (MACCs) were generated with the available Philippine data. LEAP participants were able to create different scenarios and analyze each scenario using MACCs to determine the most cost-effective energy options.
4. **Implementation:** The stakeholders' workshop on Renewable Energy financing examined the financial gaps in LEDS and the barriers to renewable energy investment. Existing energy laws were reviewed to recommend possible changes.
5. **Monitoring:** The LEDS planning and partnerships formed through AILEG will continue after the project ends and should be monitored for feedback

Ms. Kenney noted the commitment of stakeholders to institutionalize the LEAP model. For example, some universities promised to send faculty trained in using LEAP to future events and trainings to promote its use. Universities have also been helpful in database development for the energy sector.

Ms. Kenney noted that there is still a huge gap in forestry data that AILEG was working on this through REDD+ data-gathering. Efforts were underway to meet IPCC requirements and examine the government policy and institutional framework.

Ms. Kenney has identified three challenges for AILEG in the Philippines: The first was the lack of energy data and knowledge of what to do when there are insufficient data. This was addressed with the UP NEC baseline energy data for the Philippines.

The second challenge was the varying levels of capacity and need to adopt new processes and tools.

The third challenge was the perception that renewable energy (RE) is expensive – a concern that surfaced during the stakeholders’ workshop. Ms. Kenney said that LEAP modeling could help correct this perception but there was not enough time to further analyze the impact of RE on clients.

Ms. Kenney emphasized that a model is only as good as the quality and reliability of available data. In the Philippines, some data are available for the transportation and energy sectors, but more local data are needed. Another lesson learned was the importance of involving academia in energy planning and analysis. Ms. Kenney recognized the capability of academia to provide detailed analysis on the role of RE in sustainable development. This analysis includes an examination of the barriers and the policies that hinder progress and use of other analytical tools that may complement LEAP and MACCs.

Ms. Kenney said that coordination and cooperation among agencies are s important for energy planning and LEDS implementation. Ms. Kenney envisioned the MOU as the key to expand the use of LEAP in universities and research institutes.. The MOU will strengthen the partnership, commitment of academia to pursue researches and studies, examine the legal framework, and update the energy data for meaningful analysis.

A question and answer (Q&A) portion followed. Ms. Catherine Mendoza and Dr. Aura Matias raised issues of partnership sustainability, the difference between the current Climate Change Program and the 1996 program, and government commitment to LEDS. On the issue of partnership sustainability, Ms. Goco shared her belief that the stakeholders must work together to understand the data that they have produce and use in planning. Stakeholders should have a template that would ensure the quality and reliability of data. Mr. Foltz gave assurances that the U.S. will continue to support LEDS implementation in the Philippines.

Mr. Foltz also said that from 1996 to the present, the Philippine economy has grown and carbon emissions have also increased, so the mitigation plan has to be adjusted. Ms. Goco explained that the UN’s 1966 criteria did not oblige the Philippines to pursue CO₂ reduction. However, the World Bank and German Watch studies in 2012 on impacts of climate change identified the Philippines as the third most vulnerable country in the world.

Ms. Goco answered that the highest levels of government, including the cabinet, are committed to LEDS. This support is assured since the chair of the CCC is the President of the Philippines.

Ms. Catherine Maceda hosted “Thoughts from Partners” n a talk-show format that asked, who questioned training participants about the LEAP Training Workshops. Most participants said that their most important experience was working together as a team, and they have committed to using LEAP in their schools and to assist in providing quality and reliable data. Representatives from academia recognized that beyond working with the government, partnerships and collaboration are important to achieve success in LEDS. Heads of the three main bureaus of the DOE shared their views on how their respective departments (Renewable Energy Management Bureau, Energy Utilization Management Bureau, and the Energy Policy and Planning Bureau) would implement LEDS in line with lessons learned from the LEAP trainings, the workshops on Renewable Energy Financial Flows and Barriers to Investment, and from the Energy Data Assessment.

Taking Action

Ms. Marissa Cerezo

Assistant Director, REMB

Department of Energy

The Philippines faces LEDS challenges despite the Renewable Energy Act of 2008 because most generally energy facilities are unsubsidized. Ms. Cerezo noted the situation faced by the DOE noting that . She remarked that the government has been doing a balancing act to address this challenge as it devises formulas to weigh in on the cost and benefits of using an energy resource, taking into account the recent technology of each resource, the paying capacity of the consumers, and other factors.

Ms. Cerezo also cited the need to put many RE policy mechanisms in place, and to look for the best tools to monitor the policy implementation. Referring to the benefits of LEAP, Ms. Cerezo said that the lessons learned from this program will help minimize mistakes experienced by other countries. as of June. Although the previous workshop found many financial flaws and barriers to RE investments, , one of the key barriers was already addressed with the release of the Feed in Tariff (FIT) guidelines on eligibility and selection. Others such as the rules on the Renewable Portfolio Standards (RPS) were about to be issued.

Ms. Cerezo called on the support of all partners to make the process more meaningful. She also believed that the support of academia and international development institutions would help the country optimize renewable energy resources.

On the role of the Renewable Energy Management Bureau (REMB), Ms. Cerezo looked forward to more concrete projects with the universities. There were 22 accredited renewable energy centers that served as DOE extension arms in disseminating information about renewable energy. She saw the need for more collaboration with partner agencies, particularly in eliminating the perception that renewable energy is expensive.

Mr. Jesus Anunciacion

Assistant Director, EUMB
Department of Energy

Mr. Anunciacion stated that the EUMB uses data from various sources, including the Annual Primary Energy Demand produced by the EPPB division and the Annual GDP data from NEDA. The 2005 ASEAN Aspiration of Improvement of Energy Intensity showed that the Philippines Energy Intensity improved by more than 20% from 2005 to 2011 due to the robust economy.

Mr. Anunciacion referred to the problem of getting industrial data since industries are not required to submit energy consumption data. He cited changes in policies that affected data comparability; for example the Oil Deregulation Law, expanded the classifications in the petroleum industry

Mr. Jesus Tamang
Director, EPPB
Department of Energy

Mr. Tamang talked about the DOE's energy plan and its recent data collection efforts. He noted that the Philippine Energy Plan combines data for the major islands of Luzon, Visayas, and Mindanao in part due to the unavailability of disaggregated data. However, DOE was beginning to compile disaggregated energy data in Mindanao and planned to expand this to the islands of Palawan and Mindoro.

The DOE was using a planning approach that looks at different driving factors and engages stakeholders in the energy sector.

Mr. Tamang believes that the LEAP Training helped the DOE evaluate the development trajectory of the energy sector in the Philippines, but the r data tree structure needed further development.

Mr. Tamang recommended tailoring approaches to specific sectors to identify the appropriate policies for desired changes. He also suggested looking at the experience of other Asian countries. He proposed that the Philippines develop a long-term energy plan.

He stated that use of LEAP will help DOE design its programs and that DOE staff who attended the training would demonstrate the use of the model throughout the agency. Mr. Tamang acknowledged the help of EC-LEDS and AILEG in the DOE's energy planning and development of methods to secure reliable energy data.

Mr. Tamang expressed his support for the proposed Energy Conservation Bill and said that once the bill becomes a law, every institution will be required to report their energy consumption and designate an energy manager to monitor energy consumption.

He affirmed DOE's commitment to continue its partnerships with stakeholders in the energy sector at the national and international levels and that the MOU is an important step in this regard. Likewise, the MOU will definitely help institutionalize all the lessons learned from the EC LEDS and AILEG programs.

My Commitment

Sustaining partnership and commitment to pursue LEDS in energy planning is crucial to assure the success of the Climate Change Mitigation program in the Philippines. A short activity captured the participants' personal commitment to the program. Participants were instructed to look for a partner, preferably someone from a different agency or organization. They then wrote on a piece of paper their personal commitment to pursuing LEDS in their respective agencies, along with their contact details. They put these written commitments inside bottles exchanged with their partners. They were reminded to communicate with their partners to help each other fulfill their commitments.

Moderator Catherine Maceda urged the participants to call up partners one month after this event and check on the progress of their commitments.

Some of the participants shared their commitments:

- *ERC Executive Director Saturnino Francis Juan:* My commitment is to echo the EC-LEDS learning from this past month to my staff.
- *U.P. junior instructor Wilbert Tarnate:* My commitment is to review the LEAP model and modify each objective in each specific category to adapt to the particular locality or region.
- *AILEG, Mila Jude:* My commitment to share expertise, especially in GHG inventories and the LEAP modeling.
- *Landbank-Unit Head, Ms. Josefina Ramos:* My commitment is to help financing of RE, particularly mini-hydro plants, landfill gas conversion, and piggery biogas.
- *Meralco, Ms. Anna Maria Reodica:* My commitment is to provide data based on the circular of the Department of Energy and support the government initiative on smooth integration of RE to internal low voltage interconnection of other power sources.
- *NGCP, Mr. Rommel Reyes:* My commitment is to help Department of Energy in building databases to provide DOE with necessary data.
- *USAID, Ms. Lily Gutierrez:* My commitment is to facilitate EC-LEDS and support institutionalization of partnerships.
- *PUP President Emmanuel de Guzman:* My commitment is to support institutionalization of EC-LEDS in PUP and support the Energy and Clean Air project and the Center of Natural Gas Research, and use of RE for households for a better life for my beloved Philippines...
- *PUP Vice-President Manuel Muhi, PhD:* My commitment is to conduct technical research on renewable energy over the next six years.
- *TUP, Dr. Nenet Graza:* I commit to conduct research to generate data for EC-LEDS.

MOU Signing: Promoting Sustainability through Partnerships

Representatives from the Department of Energy and six universities in the Philippines—Ateneo School of Government (ASoG), Central Luzon State University (CLSU), Mapua Institute of Technology (MIT), Polytechnic University of the Philippines (PUP), Technological University of the Philippines (TUP), and the University of the Philippines (UP)—entered into an agreement “to cooperate and collaborate with one another in exploring and developing ways to promote the institutionalization of skills and competencies necessary in developing and implementing LEDS in the Philippines.”

Representatives of these institutions included Asec. Raymund Acol (DOE), Dr. Antonio G.M. La Viña, JSD (ASG), Dr. Ruben C. Sevilleja (CLSU), Dr. Emmanuel C. De Guzman (PUP), Dr. Aura Matias (UP), Eng. Jaime Honra (MIT), and Dr. Felipe Arganosa (TUP). Witnessing the MOU signing were Asec. Joyceline Goco (CCC), Deputy Director General Margarita Songco (NEDA), and Joseph Foltz (USAID).

Message from Signatories

Dr. Aura Matias

Dean, NEC

University of the Philippines

Dr. Aura Matias acknowledged the importance of the MOU in forging partnerships between the DOE and the academia. On behalf of the University of the Philippines, the UP System, and the College of Engineering and NEC, she affirmed the commitment to support the MOU in pursuing LEDS. Dr. Matias said that UP aims to become the center of activity for renewable energy development in the country. She also promised the dedication of UP professors at the UP NEC to pursue further research and studies in the use of renewable energy resources to support households and industries.

Reflecting on UP's past commitment to support climate change mitigation, Dr. Matias looked forward to the present partnership with the DOE with high hopes. UP proposes to create a National Energy Database System and provide baseline data for the country. The University of the Philippines also planned to establish a Center for Renewable Energy within the College of Engineering and NEC.

Dr. Matias thanked the DOE for giving UP the opportunity to take part in its energy planning and renewable energy development for the country. Philippine engineering talent is available and needs to be enriched along with the building of infrastructure to support the country's development.

Closing Remarks

Mr. Raymund Acol

Assistant Secretary, OSEC

Department of Energy

On behalf of the DOE, Mr. Acol was grateful for joining the occasion that marked another milestone in its common goal of enhancing capacities for LEDS. He congratulated AILEG for doing a great job despite limited time.

Mr. Acol recognized developing low emission strategies for the energy sector is a major challenge due to the government's limited resources to conduct regular and comprehensive data gathering. Academia is also limited to project-based data sources and the private sector wants to protect proprietary data.

Mr. Acol was pleased with establishment of the partnership between the DOE and academia that will pave the way for sustainable development and implementation of LEDS for the benefit of the energy sector, environment, and welfare of the Filipino nation. Although AILEG will end, the new partnerships will continue to develop projects and programs.

ANNEXES

Annex I.



“Lessons Learned in Low Emission Development Strategies (LEDS) and Renewable Energy Analysis:

Promoting Sustainability through Partnerships”

18 June 2013, 8:30 AM -2:00 PM

Dusit Thani- Makati

8:30 **Participant Registration**

9:00-9:15 **Opening Ceremonies**

- Invocation
- National Anthem
- Introductions

9:15-9:25 **Welcoming Remarks**

Asst. Secretary Joyceline A. Goco

Deputy Executive Director, Climate Change Commission

9:25-9:35 **Message**

Mr. Joseph Foltz

Acting Director, Office of Environment Energy and Climate Change, USAID

- 9:35-9:45 **Updates on GPH-USG the Enhancing Capacity for Low-Emission Development Strategies**
- Ms. Lily Gutierrez*
- Energy Policy Specialist*
- Office of Energy, Environment and Climate Change, USAID*
-
- 9:45-10:00 **Analysis and Investment on Low-Emission Growth (AILEG) and Its Accomplishments in the Philippines**
- Dana Kenney*
- Country Manager, AILEG*
-
- 10:00-10:15 Q & A
-
- 10:15-10:25 Coffee/Tea Break
- 10:25-11:00 **Thoughts from Partners**
- Chair: Ms. Catherine Maceda*
- Panelists: LEAP participants from academia and private sector, MACC and Integrated Database workshop participants from EUMB and EPPB.*
- Objective: Partners to share insights on how the AILEG activities have increased their capabilities, personal experiences during the training and how or when they intend to use the tools.*
- Format: Moderated discussion*

11:00-11:30 **Taking Actions**

Mario C. Marasigan, Director - Renewable Energy Management Bureau, DOE

Jesus C. Anunciacion, OIC Asst. Director - Energy Utilization & Management Bureau, DOE

Jesus T. Tamang, Director - Energy Policy & Planning Bureau, DOE

11:30-12:00 **My Commitment**

12:00-13:00 Lunch

13:00-13:40 **Promoting Sustainability through Partnerships**

Signing of Memorandum of Understanding

Message from Signatories

13:40-13:50 **Closing Remarks**

Assistant Secretary Jose Raymund A. Acol

Department of Energy

13:50-14:00 **Group Picture**

Activity Objectives

1. Report on the EC-LEDS milestones;
2. Share lessons learned; and
3. Present near-term results and GPH response
4. Establishment of partnership to promote and sustain AILEG activities through signed agreement/understanding.

Annex 2. Workshop Participants

Name	Gender	Title	Organization	Email Address	Contact No./s
ACADEMIA					
1. Aletheia Kerygma B. Valenciano	F	Project Associate	Ateneo de Manila University – School of Government (ADMU-SOG)	akbvalenciano@gmail.com	
2. Atty. Antonio GM. La Vina	M	Dean	A D M U – S O G		
3. Fernando Y. Roxas, Ph.D.	M	Professor	Asian Institute of Management (AIM)		
4. Maria Teresa Lizo	F	Science Research Specialist II	Central Luzon State University (CLSU)	clsu.arec@gmail.com	
5. Liwayway M. Cruz	F	Director, Center for Global Warming Studies	Polytechnic University of the Philippines (P U P)	memijecruz@yahoo.com	
6. Dr. Ruben Sevilleja	M	President	CLSU	rcsevilleja@yahoo.com	
7. Victorino T. Taylan, PhD.	M	Professor	Central Luzon State University – Affiliated Regional Energy Center (CLSU-AREC)	vttaylan@yahoo.com	
8. Engr. Jaime Honra	M	Faculty	Mapua Institute of Technology (MIT)	jphonra@mapua.edu.ph	

9 . Emmanuel De Guzman, Ph.D.	M	President	PUP	
10. Manuel Muhi, Ph.D.	M	Vice President	PUP	Manuel_muhi@yahoo.com
11 . Nenet Graza	F	Former Director	Technological University of the Philippines (TUP)	nenetg@yahoo.com
12. Felipe Arganosa, PhD.	M	Director, Research and Training Center; In-Charge, Renewable Energy Researches	TUP	filipro@yahoo.com
13. Gina Basa, PhD.	F	Director, Institutional & International Linkage & External Affairs Office	TUP	ginabasa@yahoo.com
14. Aura Matias, PhD.	F	Dean	University of the Philippines – National Engineering Center (UP-NEC)	
15. Wilbert Rey Tarnate	M	Laboratory Instructor/ Junior Instructor	UP-NEC	wilbertreytarnate@yahoo.com
16. Adonis Emmanuel DC Tio	M	Junior Instructor	UP-NEC	adonis_tio@yahoo.com
17. Ivan	M	Professor	UP-NEC	

Benedict Nilo Cruz					
18. Rowaldo Del Mundo	M	Professor	UP-NEC		
19 . Michael Angelo A. Pedrasa	M	Professor	UP-NEC		
Sub total:	19				
Male=	13				
Female=	6				
GOVERNMENT AGENCIES AND COMMISSIONS					
20. Cecilia Felipe	F	OIC-Chief, Planning & Programming Division	Bureau of Internal Revenue (BIR)	Cecilia.felipe@bir.gov.ph	920-3563 / 0917-5572409
21. Atty. Saturnino Francis Juan	M	Executive Director	Energy Regulatory Commission (ERC)	fscjuan@erc.gov.ph	6315816
22. Sharon Montaner	F	Planning Officer	ERC	somontaner@erc.gov.ph	9145000 Local 411
23. Josefina Ramos	F	Unit Head-EPMU	Landbank of the Philippines (LBP)	jramos@mail.landbank.com	4057736
24. Blademir Mancenedo	M	Executive Coordinator	League of Municipalities (LMP)	bladylm@yahoo.com	9135737
25. Roberto Arellano	M	Program Officer	League of the Provinces in the Philippines (LPP)	Lppsec2007@yahoo.com	6875399
26. Bryan Diosma	M	Economic Development Specialist - PPPDO	Mindanao Development Authority (MinDA)	Bryan.diosma@minda.gov.ph	0918-3498100
27. Gilbert P. Ofina	M	Economic Development Specialist	National Economic Development Authority (N E D A)	GPOfina@neda.gov	631-0945 loc. 315

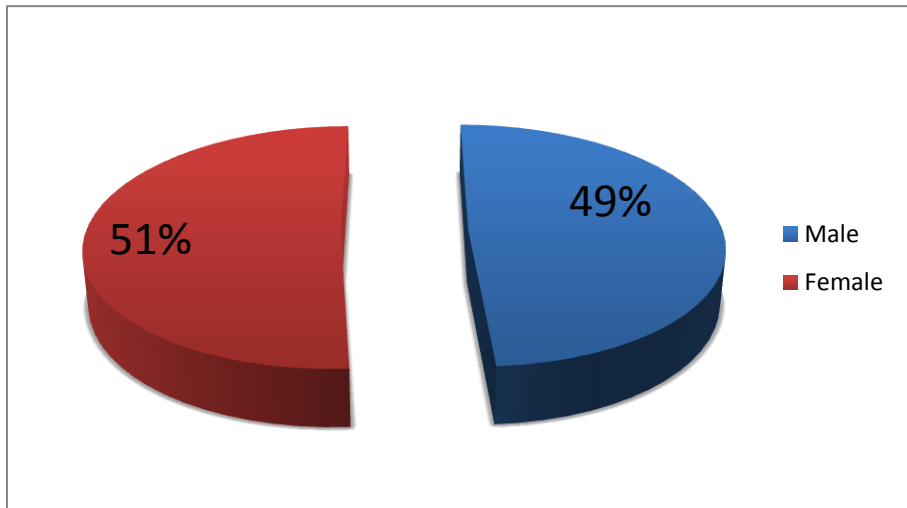
28. Margarita Songco	F	Deputy Director General	NEDA	mrsongco@neda.gov.ph	6313724/6389108 Loc. 211
29. Rommel Reyes	M	Section Head	National Grid Corporation of the Philippines (NGCP)		
30. Manolito Acda	M	Principal Biologist	NGCP		
31. Pete H. Maniego	M	Chairman	National Renewable Energy Board (NREB)		
32. Carlos Jose P. Gatmaitan	M	President, PNOC Renewables	Philippine National Oil Corporation (PNOC)	8121286/8120991	8121286/8120991
33. Rosaline Agosto	F	Engineer III	Sugar Regulatory Administration (SRA)	salenagosto@yahoo.com	2360025
34. Rogelio Genzola	F	Engineer III	SRA	rogeliogenzola@yahoo.com	2360025
35. Alice Maliwat	F	Planning Officer	SRA		4550446
36. Kenneth G. Turaray	M	Information Technology Officer	Union of Local Authorities of the Philippines (ULAP)	ulapnatsec@gmail.com	5346789
37. Joyceline A.Goco	F	Assistant Secretary Deputy Director	Climate Change Commission (CCC)		7353144
38. . Sandee Recabar	F	SRS II	CCC	sandee.recabar@climate.gov.ph	735-3069 sandee.recabar@climate.gov.ph
Sub total:	19				
Male=	10				

Female=	9				
PRIVATE AND PUBLIC UTILITIES					
39. Sahcel Estoperes	F	Economic Analyst, Utility Economics	Manila Electric Company (MERALCO)	ued.mo@meralco.com.ph	0935-9134040
40. Trixia Anne Tañedo	F	Economic Analyst, Utility Economics	MERALCO	ued.adss@meralco.com.ph	0917-5769393
41. Anna Maria Reodica	F		MERALCO		
42. Pio J. Benavidez	M	Senior Vice President	National Power Corporation (NPC)		9213541
43. Myrna Tulod	F	Corporate Specialist	National Transmission Corporation (TRANSCO)	mmtulod@transco.ph	9021500 Local 1564
Sub total:	5				
Male=	1				
Female =	4				
NON-GOVERNMENT ORGANIZATIONS					
44. Kaye Patdu	F	Program Manager, Air Quality and Climate Change Program	Clean Air Initiative for Asian Cities, Ortigas Center		
45. Kathleen Dematera	F		Clean Air Initiative for Asian Cities, Ortigas Center		

Sub-total:	2				
Male=	0				
Female=	2				
DEPARTMENT OF ENERGY					
46. Raymund Acol	M	Assistant Secretary	Office of the Secretary (OSEC)		
47. Jesus T. Tamang	M	Director	Energy Policy and Planning Bureau (EPPB)	jtamang@doe.gov.ph	840-1637
48. Jesus Anunciacion	M	Assistant Director	Energy Utilization Management Bureau (EUMB)		840-2192
49. Marissa Cerezo	F	Assistant Director	Renewable Energy management Bureau (REMB)		
50. Artemio Habitan	M	Officer-in-Charge, Division Chief	EUMB		840-2192
51. Marietta Quejada	F	SRS	EPPB	mquejada@doe.gov.ph	840-1637
52. Charmaine Taliping	F	SRS	EPPB		840-1637
53. Melita Obillo	F	SRS	Oil Industry Management Bureau (OIMB)		8402187
54. Rosalie Joan D.R. Sotelo	F	SRS	EUMB	rosaliejoan@yahoo.com	840-2192
55. Geraldine Sacayan	F	SRS II	OIMB	gmsacayan@doe.gov.ph	8402187
56. Nelietta	F	COS/HEA	OSEC		8402028

Baguna					
Sub-total:	11				
Male =	4				
Female =	7				
OTHER GOVERNMENT DEPARTMENTS					
57. Stephanie Del Rosario	F	Planning Officer	Department of Finance (DOF)	smdrosario@gmail.com	5239911
Sub-total	1				
Male =	0				
Female =	1				
Totals		100%			
Male =	57	49%			
Female =	28	51%			
USAID and AILEG Team					
59. Joseph Foltz	M	Acting Director, Office of Environment, Energy and Climate Change (OEECC)	USAID		(02) 522-9832
60. Lily Gutierrez	F	Energy Policy Specialist (OEECC)	USAID	lgutierrez@usaid.gov	
61. Constantin Abarbieritei	M	Senior Vice President, International Economic Growth	Abt Associates, Inc.	constantin_abarbieritei@abtassoc.com	
62. Divina Chingcuanco	F	COP	C-Energy		
63. Dana Kenney	F	Country Manager	A I L E G	Dana_Kenney@abtassoc.com	(001) 301-968-4420

64.Erníe Guiang	M	Consultant	AILEG		0917-5697461
65. Felicidad D. Narvaez	F	Country Coordinator	A I L E G	nene.narvaez@ymail.com	265024
66.Jose Escay, Ph.D.	M	Consultant	A I L E G	Jose_escay@yahoo.com	0917-8880257
67.Mila Jude	F	Consultant	A I L E G	milajude@icloud.com	
68.Josephine M. Tioseco	F	Consultant	A I L E G		
69. Catherine Maceda	F	Moderator	A I L E G		
Sub-total:	10				
Male	3				
Female	7				
TOTAL MALE	32				
TOTAL FEMALE	37				
	69				
GRAND TOTAL:					



Count of Gender	
Male	28
Female	29
Total	57

Annex 3. Presentations

**USAID**
FROM THE AMERICAN PEOPLE

AILEG AND ITS ACCOMPLISHMENTS IN THE PHILIPPINES


A I L E G

June 18, 2013

Presented by: Dana Kenney

**USAID**
FROM THE AMERICAN PEOPLE

AILEG PROGRAM 2011-2013

Objectives:

The AILEG Project helps governments, USAID missions, and other stakeholders to integrate climate change economics and investment into low-emission development strategies (LEDS).

Core Tasks/Project Components:

Financial/Investment Analysis, Economic Modeling and Capacity-Building, Data Collection and Management

Partner Countries:

Colombia, Jamaica, Mexico, [Philippines](#), Vietnam, Kazakhstan

KEY STAGES IN A LEDS ADDRESSED BY AILEG PHILIPPINES

1. Organizing the LEDS Process
1. Assessing the Current Situation – Energy and Forestry Data Assessment
3. Analyzing Options – LEAP Training
4. Prioritizing Actions – LEAP Training, MACCs, RE Finance Study
5. Implementation and Monitoring



ASSESS CURRENT SITUATION – ASSESSMENTS: ENERGY FORESTRY DATA/REDD+

1. Assess current development plans, policies & practices.
2. Compile resources, and lessons learned from prior & existing programs, studies, and data.
3. Assess public and private sector capacity to support LEDS.
4. Assess/improve GHG inventories and other data needed for LEDS.
5. Assess landscape monitoring systems





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ANALYZE OPTIONS – TOOLS: LEAP TRAINING AND MACCS

1. Develop “No Climate Action” baseline scenario
2. Assess Opportunities for Climate Action
3. Develop Low GHG Scenarios
4. Identify Policy and Financing Options for implementing LEDS



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AILEG PHILIPPINES: ACHIEVEMENTS (TO DATE*)

Activity and Task	Results Achieved
<ul style="list-style-type: none"> • LEAP Training • Energy Data Assessment • Marginal Abatement Cost Curves (MACCs) • Forestry Data and REDD+ • Renewable Energy Financial Flows and Barriers Study 	<ul style="list-style-type: none"> • Trained 30+ GPH+ others; academia commitment to training • 700+ data fields reviewed; Action plan for data & database • MACCs help DOE identify high priority EE actions • *Reviewed available data; Sound data requirements: IPCC, REDD+ strategy, Ph ecosystems, and governance framework • DOE commitment to review existing RE policy, action plan

AILEG PHILIPPINES: CHALLENGES

- LEAP Trainings last week of January and mid-May
 - ❖ LEAP datasets require significant resources
- Energy data/database assessment
 - ❖ Understanding how LEDS data requirements are different than those for traditional planning processes
- MACC curves
 - ❖ GPH bureaus involved in developing and using MACCs need to understand methodology thoroughly
- Renewable Energy Financial Flows study and workshop
 - ❖ Need to understand and address reasons for delay in policy implementation (consumer impact a concern)

AILEG PHILIPPINES: LESSONS LEARNED – LEDS PLANNING, MODELING AND ANALYSIS

- Modeling sophistication is less important than data quality and consistency
- Limited data available on renewable energy and on the share of vehicles and fuel efficiency
- Even simple models require a good level of expertise
- Policy analysis/modeling requires support from local experts (e.g. academia)
- Coordination among, and involvement of, various affected agencies in planning process is essential
- Industrial MACCs can be helpful in supporting industrialization policy through improved efficiency



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AILEG PHILIPPINES: LESSONS LEARNED – RENEWABLE ENERGY FINANCIAL FLOWS AND BARRIERS

- It is important to understand the true barriers to investment in RE
- In PH, there is no lack of financing; policies and other barriers are key issues
 - ✦ policies that inhibit investment
 - ✦ layers of bureaucracy
 - ✦ uncertainty due to lack of policy implementation
 - ✦ Greater awareness of LGUs needed
 - ✦ Need to simplify RE loan approval for banks



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AILEG PHILIPPINES: THE WAY FORWARD

- **LEAP Training**
 - ✦ MOU - continue and expand LEAP training in curriculum
 - ✦ UP-NEC completing case studies for use in LEAP training
- **Energy Data and Database development**
 - ✦ MOU between DOE and Academia to improve LEDS data
 - ✦ Action plan includes legal framework ; guidelines on data access; regular surveys; unified data repository; capacity building
- **MACCs**
 - ✦ Timeline for improving data and updating MACCs established
- **Renewable Energy Financial Flows and Barriers**
 - ✦ DOE/stakeholders to address policy implementation, capacity building and project approval process
- **Forestry Data and REDD+ Assessment** – June 21 Manila stakeholder workshop; visit to regions June 25 & 26

Annex 4. Questions and Answers/Open Forum

Question and Answer (Open Forum)

The open forum that followed revolved around the issue of how the partnership between the government and the stakeholders in the energy sector can be sustained within the context of the present legal framework and the challenges in data collection, storage, and analysis.

Issue/s Raised	Reaction / Response
<p>How sure are we that the partnerships between the government agencies and stakeholders in the energy sector to promote LEDS can be sustained in the future?</p>	<p>Ms. Joyceline Goco: Sustaining the LEDS program requires understanding of data. The seeming lack of data may be due to the different format. It is therefore necessary to examine how data can be used in LEAP and MACC analysis.</p> <p>The activity data for the GHG inventory should be examined and institutionalized using a standard data template. Doing this will make identification of mitigating actions easier.</p> <p>A nationally appropriate mitigation action should be the main thrust. In that case, local energy data will play an important part.</p> <p>The role of the CCC is to facilitate the LEDS process by acting as coordinating agency. As regards to budget, there is a plan to cluster the budget within the different areas of the climate change adaptation and mitigation programs.</p> <p>Mr. Joseph Foltz: As far as the role of the USAID is concerned, we are here to support and be involved in EC LEDS program. The Philippine energy plan is great in terms of the legal framework that supports it. All these that we are doing under the EC LEDS and AILEG programs are sustainability tools.</p> <p>The stakeholders have learned a lot from the inputs that each of us has made through the EC LEDS and AILEG programs and USAID has been consistent in making sure that this learning will be translated effectively to LEDS.</p>
<p>How different is the present Climate Change Mitigation program from the</p>	<p>Mr. Jo Foltz: This question gives us the opportunity to look back. The situation in 1996 was very</p>

<p>previous 1996 USAID supported program on Climate Change mitigations in the Philippines?</p>	<p>different from today. The year 1996, that was before the financial crisis. A lot has changed since then, the Philippine economy has grown. The emission levels have changed.</p> <p>Ms. Joyceline Goco: In 1996, the global climate change mitigation agenda was focused on the reduction of carbon emissions. Under the UN criteria, the Philippines had no obligation to lessen its emission. The focus then was on sustainable development. Unfortunately, there has been no progress except probably with the passing of the Renewable Energy Act (2008). Moreover, even the RE Act provides us only with ministerial function.</p> <p>There is now a move to pursue nationally appropriate mitigating actions. This approach takes into consideration the emission capacity of the Philippines. The government intends to do this through the National Mitigating Action Plan. This is a priority focus because the Philippines, unlike in 1996, is now considered as vulnerable to climate change.</p>
<p>To what extent can the government sustain its commitment to the present Climate Change Mitigation programs using LEDS and Renewable Energy Analysis?</p>	<p>Ms. Joyceline Goco: There is a top of government approach going on in this program. The CCC is chaired by the President. The three commissioners are supporting the President in designing appropriate mitigation actions and programs. The CCC is continuously reviewing its GHG inventory procedure and even the rationale behind its implementation.</p> <p>The CCC is also doing its best to get other agencies involved in the program. It conducts consultation meetings and uses these as venues to disseminate information about climate change.</p> <p>The major components of the inventory we are doing are about how to utilize data to identify our mitigation action. Currently, Secretary Sering is talking to senior officials personally and discussing with them why we have to address climate change and mitigation.</p> <p>From experience, there is slowly a buy-in</p>

	looking at the advantages of climate change awareness beyond the recognition of it being a simple global issue.
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Annex 5. Thoughts from Partners

■ What eye opening experience do you consider most important during the LEAP Training?

Learning together with participants from other agencies was an important experience for me. It was nice to be with them. We were able to exchange views. With LEAP training, we learned more.

Mayette Quejada

Senior Research Specialist, EPPB

Department of Energy

■ What actions do you intend to do to promote LEAP in your school?

Based on what I learned, I can make my teaching enquiry-based, i.e. giving my students opportunities to understand mitigation through a climate change lens, My students enjoy using the computer driven LEAP tool in the training. Looking back as LEAP students, we were very enthusiastic during the presentation of different scenarios. Building on that experience, I would like to see my students perform high technology projections and brainstorm on what can be drawn from the scenarios using LEAP tools.

Vice-President Muhi instructed me to conduct LEAP echo-seminar among PUP faculty and staff. By providing inputs to my colleagues, I am also enhancing my capacity to teach LEAP. Likewise, we will also invite LEAP veterans like Prof. Rowaldo del Mundo and Ms. Mila Jude to become resource speakers and trainers.

Liwayway M. Cruz

Director, CGWPS

Polytechnic University of the Philippines

In LEAP, we never left our task unfinished. I recalled how my students in 1995 were using the program for the first time manually. There was no Windows software then. We are affiliated with the Renewable Energy Center and as such we encourage the use of the LEAP tool. With regards to curriculum development, we may be able to do more contribution in building

information, education and communication activities to influence the 22 members ARECS to use the LEAP tools.

Maria Teresa Lizo

Science Research Specialist II

Central Luzon State University

- **Having worked with people from the government during the LEAP Training, do you now consider a job in the government?**

The LEAP Training workshop gave me an opportunity to see how government- private sector- academia partnership works. It doesn't matter whether I work for the government or not. What is important is the existing cooperation and the commitment to sustain it. This cooperation is very important so that major challenges could be resolved. For example, the problem of energy data, there should be a consortium of data.

Partnership with academia, the private and public sector is necessary for policy formulation- not just in securing accurate data. In policy formulation, often the data are provided by the private sector and the analysis is done by the academia. The academia then forwards its findings to the government as recommendations to be considered in policy making process.

Aletheia Kerygma B. Valenciano

Project Associate

Ateneo de Manila University – SOG

- **Having heard from Ms. Valencio the concern over the need for reliable data, and coming from an energy service provider company, what is your take on that?**

We make sure, we report correct and accurate data. We only disclosed all the necessary data that DOE asked from us.

Trixia Anne Tañedo

Economic Analyst, Utility Econ

MERALCO

- **As far as you are concerned, what can you contribute to promote the use of LEAP?**

We are currently adapting LEAP to enhance our curriculum. UP NEC envisions the creation of a national energy database through its partnership with the DOE.

Wilbert Rey Tarnate

Instructor

University of the Philippines

On the capacity to use the analytical tools, reliable data are equally important. No matter how good these tools are in the absence of reliable data, we don't get a good policy to the public. We need quality data. The academia could help us gather data and might be a replacement to the more expensive surveys like the Household Energy Consumption Survey or Survey on Establishments Consumption. As long as we start with a good data we can safely say that the projections and policy that come after are more reliable. In promoting LEAP, I am committing myself to make sure that DOE would be able to build a quality and reliable energy database to make the use of this tool more meaningful and relevant.

Mayette Quejada

Senior Research Specialist, EPPB

Department of Energy

Annex 6. Memorandum of Understanding



MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) entered into this 18th day of June 2013 in Makati City, by and between:

The Partner Government Agencies of the Philippines, acting through:

The **Department of Energy (DOE)**, a government agency created pursuant to Republic Act No. 7638, otherwise known as the DOE Law of 1992, responsible for preparing, integrating, coordinating, supervising and controlling all plans, programs, projects and activities of the Government relative to energy exploration, development, utilization, distribution and conservation, with the office address at Energy Center, Merritt Road, Fort Bonifacio, Taguig, Metro Manila, represented herein by Secretary Carlos Jericho L. Petilla.

-and-

The Partner Universities in the Philippines, which include:

The **Ateneo de Manila University - School of Government (ASoG)** is a professional school for leadership and public service that fosters the development of new ideas and approaches, and makes possible a learning process that bridges the gap between classroom wisdom and real-world policy decision-making and governance. As a research unit, its focus areas include leadership & governance, social accountability, climate change & the environment, solutions to poverty and politics. ASoG is represented herein by President Jose Ramon T Villarin SJ.

The **Central Luzon State University (CLSU)** was established on June 18 1964 by virtue of Republic Act No. 4067 to give professional and technical training in agriculture and mechanic arts; provide advance instruction; promote research, literature, philosophy, the sciences, technology and arts; represented herein by its President Ruben C. Sevilleja, Ph.D.

The **Mapua Institute of Technology** was founded on January 25, 1925 by Don Tomas Mapúa, the first registered Filipino architect. Mapua is an educational institution that provides the necessary emphasis on the growing importance of science and technology in the improvement of the country's economy and the quality of life of its citizens; represented herein by President and CEO Reynaldo B. Veal, Ph.D.

The **Polytechnic University of the Philippines (PUP)** is a state chartered university governed by Republic Act Number 8292 known as the Higher Education Modernization Act of 1997, and its Implementing Rules and Regulations contained in the Commission on Higher Education Memorandum Circular No. 4, series 1997; represented herein by its President, Emmanuel C. De Guzman, Ph.D.

The **Technological University of the Philippines**, a state university existing by virtue of its Charter, represented herein by its President, Olympio V. Caparas, Ph.D.

The **University of the Philippines Diliman**, the National University, a public and secular institution of higher learning, created by virtue of Act. No. 1870, as amended and reorganized and operating by virtue of Republic Act No. 9500, through its constituent university, University of the Philippines in Diliman, Quezon City, represented herein by its Chancellor, Caesar A. Saloma, hereinafter referred to as UP.

The Partner Government Agencies of the Philippines, acting through **DOE** and the Partner Universities in the Philippines, **ASoG**, **CLSU**, the **Mapua Institute of Technology**, **PUP**, **TUP** and the **UP** are hereinafter collectively referred to as "**Parties**";

WITNESSETH; That:

WHEREAS, the Government of the Philippines recognizes that low emissions development is an appropriate approach to sustainable development, and has been pro-active in implementing through the DOE and CCC, among others in line with their respective mandates, new energy and climate change policies, plans, and programs that can help the country on a low emission development pathway under the Renewable Energy Act and the Climate Change Act;

WHEREAS, the United States Agency for International Development (USAID), through its Analysis and Investment for Low-Emission Growth (AILEG) project under the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) program, has provided focused support in the energy sector that includes conducting an energy data assessment, assessing the financial flows and barriers to scaling up investments in renewable energy, conducting an economic analysis of demand-side energy measures, and providing training in energy sector modeling, specifically using the Long-range Energy Alternatives Planning System (LEAP) software, to help promote the efforts of the Philippines in evaluating Low Emission Development Strategies (LEDS);

WHEREAS, the Partner universities, which are expected to set academic standards and initiate innovations in technical and policy research and development in education and training, and provide extension services to the community, can assist DOE and CCC to promote the institutionalization of necessary skills and competencies in conducting energy data assessments, management of integrated energy data, assessment of the state and potential of financing for scaling up investment in renewable energy, in conducting economic analysis of demand-side energy measures, and in providing training on energy sector modeling, specifically using the LEAP software, for graduate students and professionals throughout the country;

WHEREAS, all Parties have expressed the intention to cooperate and collaborate with one another in exploring and developing ways to promote the institutionalization of skills and competencies necessary in developing and implementing LEDS in the Philippines;

THEREFORE, in consideration of the foregoing premises, all Parties do hereby agree to effectively and efficiently complement each other's capabilities and resources in developing, promoting, implementing and sustaining activities which will support the development of LEDS for the country under the following mutually acceptable terms and conditions:

1. All Parties intend to cooperate and coordinate with one another in order to support the development and implementation of LEDS for the benefit of the energy industry, environment, and welfare of the Filipino end-users.
2. This MOU shall form the basis for the Parties herein to enter into specific project agreements to be covered by Memorandum of Agreements (MOAs) that will further define and detail the relationship between the Parties herein stated.
3. The Parties herein intend to cooperate in pursuing various partnership projects for the development of LEDS such as, but not limited to:
 - a. hosting of Integrated Energy Data Bases in the academia;
 - b. including LEAP in courses, seminars and other university curricula where applicable;
 - c. joint research and development projects for LEDS;
 - d. joint symposia, trainings, seminars, workshops and conferences;
 - e. joint publications, exchange of data and information; and
 - f. other activities deemed necessary and appropriate.
4. All the Parties concerned reaffirm their intention to:
 - a. provide assistance in undertaking specific tasks under terms and conditions mutually agreed upon by parties concerned;
 - b. provide assistance in research activities relating to the development of LEDS;
 - c. provide extension services to communities;

- d. initiate and establish linkages with other sectors to result in strengthened partnerships that will facilitate efforts in developing LEDS; and,
- e. while working jointly under this MOU, shall maintain their independence and distinct authorities in accordance with their respective mandates.

Any modifications to this MOU may be done in writing by the Parties concerned. Parties may terminate their participation in this MOU without incurring any liability by informing the other Parties in writing at least thirty (30) days before the date such termination becomes final.

This MOU shall take effect upon the signing of the Parties herein stated, and shall be in force until revoked by all parties.

IN WITNESS WHEREOF, parties have hereunto affixed their signatures in the date and the place herein stated:

Hon. Carlos Jericho L. Petilla

Secretary

Department of Energy

Jose Ramon T. Villarin SJ,

President

Ateneo University

School of Government

Ruben C. Sevilleja, Ph.D.

President

Central Luzon State University

Reynaldo B. Vea, Ph.D.

President and Chief Executive Officer

Mapua Institute of Technology

Emmanuel C. De Guzman, Ph.D.

President

Polytechnic University of the Philippines

Olympio V. Caparas, Ph.D.

President

Technological University of the Philippines

Cesar A. Saloma, Ph.D.

Chancellor

University of the Philippines

WITNESSES:

Asst. Secretary Joyceline A. Goco

Deputy Executive Director

Climate Change Commission

Ms. Margarita Songco

Deputy Director General

National Economic Development Authority

Mr. Joseph Foltz

Acting Director

Office of Environment Energy and Climate Change

U.S. Agency for International Development



The **Technological University of the Philippines**, a state university existing by virtue of its Charter, represented herein by its President, Olympio V. Caparas, Ph.D.

The **University of the Philippines Diliman**, the National University, a public and secular institution of higher learning, created by virtue of Act. No. 1870, as amended and reorganized and operating by virtue of Republic Act No. 9500, through its constituent university, University of the Philippines in Diliman, Quezon City, represented herein by its Chancellor, Caesar A. Salona, hereinafter referred to as U.P.

The Partner Government Agencies of the Philippines, acting through **DOE** and the Partner Universities in the Philippines, **ASoG**, **CISU**, the **Mapua Institute of Technology**, **PUP**, **TUP** and the **UP** are hereinafter collectively referred to as "**Parties**";

WITNESSETH: That:

WHEREAS, the Government of the Philippines recognizes that low emissions development is an appropriate approach to sustainable development, and has been pro-active in implementing through the DOE and CCC, among others in line with their respective mandates, new energy and climate change policies, plans, and programs that can help the country on a low emission development pathway under the Renewable Energy Act and the Climate Change Act;

WHEREAS, the United States Agency for International Development (USAID), through its Analysis and Investment for Low-Emission Growth (AILEG) project under the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) program, has provided focused support in the energy sector that includes conducting an energy data assessment, assessing the financial flows and barriers to scaling up investments in renewable energy, conducting an economic analysis of demand-side energy measures, and providing training in energy sector modeling, specifically using the Long-range Energy Alternatives Planning System (LEAP) software, to help promote the efforts of the Philippines in evaluating Low Emission Development Strategies (LEDS);

WHEREAS, the Partner universities, which are expected to set academic standards and initiate innovations in technical and policy research and development in education and training, and provide extension services to the community, can assist DOE and CCC to promote the institutionalization of necessary skills and competencies in conducting energy data assessments, management of integrated energy data, assessment of the state and potential of financing for scaling up investment in renewable energy, in conducting economic analysis of demand-side energy measures, and in providing training on energy sector modeling, specifically using the LEAP software, for graduate students and professionals throughout the country;



WITNESSES:

Asst. Secretary Joyceline A. Goco
Deputy Executive Director
Climate Change Commission

DDG Margarita Songco
Regional Development Office National
National Economic Development Authority

Mr. Joseph Foltz
Acting Director
Office of Environment Energy and Climate Change
U.S. Agency for International Development